

IN THE CLAIMS:

Please amend claim 1, and add new claims 20-21 as follows:

1. (Currently Amended) An optical head comprising a light source for emitting a light beam, a lens for focusing the light beam onto a medium, and a detector for detecting a reflected light beam from the medium,

wherein the light source comprises a semiconductor laser comprising an active layer and [[a]] at least one barrier layer, said active layer [[being]] is formed of an indirect bandgap semiconductor in an asymmetric quantum [[well]] structure in which a bandgap is defined between a quantum well of a conduction band and an adjacent quantum well of a valence band [[are]], and each of the quantum wells has two walls which are asymmetric with respect to a center of the quantum well structure in a band structure pattern.

2. (Canceled)
3. (Previously Presented) An optical head as set forth in claim 1, wherein the semiconductor laser has a barrier layer, which is also said indirect semiconductor.
4. (Previously Presented) An optical head as set forth in claim 1, wherein said indirect semiconductor is made of an indirect semiconductor mixed crystal material.
5. (Previously Presented) An optical head as set forth in claim 1, wherein said optical head is used for reproducing information from the medium.
6. (Canceled)
7. (Previously Presented) An optical head as set forth in claim 1, wherein the indirect semiconductor has an adjacent confinement structure.
8. (Previously Presented) An optical head as set forth in claim 1, wherein the material of the indirect semiconductor is of an AlGaP (aluminum, gallium and phosphor) group.
9. (Previously Presented) An optical head as set forth in claim 8, wherein said light

beam has a continuous spectrum of which a half-value width of a main peak is not less than 20 meV but not greater than 400 meV in the form of optical energy range.

10. (Previously Presented) An optical head as set forth in claim 8, wherein said light beam has a continuous spectrum of which a half-value width of a main peak is not less than 6 nm but not greater than 100 nm.
11. (Previously Presented) An optical head as set forth in claim 1, wherein the material of the indirect semiconductor is of a SiGe (silicon germanium) group.
12. (Previously Presented) An optical head as set forth in claim 11, wherein said light beam has a continuous spectrum of which a half-value width of a main peak is not less than 20 meV but not greater than 150 meV in optical energy range.
13. (Previously Presented) An optical head as set forth in claim 11, wherein said light beam has a continuous spectrum of which a half-value width of a main peak is not less than 13 nm but not greater than 90 nm at a room temperature.
14. (Previously Presented) An optical head as set forth in claim 1, wherein a direct current (dc) drive is used for driving the semiconductor laser.
15. (Previously Presented) An optical head as set forth in claim 1, comprising a multi-layer film reflector provided at an end face of a resonator.
16. (Previously Presented) An optical head as set forth in claim 1, comprising a waveband pass filter for limiting the wavelength of the light beam from the semiconductor laser to be less a half-value width of 2 nm.
17. (Previously Presented) An optical head as set forth in claim 1, comprising a cooler for lowering the temperature of a light emitting part of the semiconductor laser.
18. (Previously Presented) An optical disc apparatus using an optical head as set forth in claim 1.

19. (Previously Presented) An optical head as set forth in claim 1, wherein the half-width of the main peak is in a range from 6 nm to 10 nm.
20. (New) An optical head as set forth in claim 1, wherein said active layer is formed of a first layer constituting the quantum well of the conduction band and a second layer constituting the quantum well of the valence band, the first and second layers are made of different materials.
21. (New) An optical head as set forth in claim 20, wherein the first layer is made of AlP, the second layer is made of GaP, and
Said at least one barrier layer includes two barrier layers which are made of AlGaP and sandwich said active layer in-between.